

1 September 1969

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25X1C

BASIS OF DESIGN

MECHANICAL

GENERAL

The design is based upon data and design criteria obtained from ASHRAE Guide 1967 and as per requirements in the "Scope of Work".

DESIGN CONDITIONS

Outdoor design conditions have been obtained from ASHRAE Guide 1967, HANDBOOK OF FUNDAMENTALS, adjusted for site location.

Indoor design temperatures as per Scope of Work, thus:

Outdoor summer: D.B. = 93°F
W.B. = 73°F
R.H. = 38%

Outdoor winter: D.B. = 30°F

Indoor summer: D.B. = 72°F Rooms: 10, 11, 12a,
R.H. = 50%) 12b, 13

D.B. = 75°F Rooms: 1, 2, 3, 4, 5c, 6a, 6b,
R.H. = 50%) 7, 8, 9, 13a, 13b, 13c

Indoor winter: D.B. = 70°F Rooms: 1, 2, 3, 4, 5c, 6a, 6b,
7, 8, 9, 13a, 13b, 13c

HEAT TRANSMISSION COEFFICIENTS "U"

Roof: 0.25 BTU/Hr F SF

Exterior wall: 0.56 Ditto

Interior wall: 0.50 "

Glass: 1.13 "

Perimeter factor: 42 BTU/Hr FT

REC'D
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FILE

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AIR-CONDITIONING SYSTEM

The design calls for a central air-conditioning system (with a 20% reserve cooling capacity), serving the following rooms: 1, 2, 3, 4, 5c, 6a, 6b, 7, 8, 9, 10, 11, 12a and 12b. These rooms are consisting four zones as follow:

Zone I : Room No. 10

Zone II : Rooms Nos. 11, 12a & 12b

Zone III : Rooms Nos. 1, 2, 3, 4, 5c & 6b

Zone IV : Rooms Nos. 6a, 7, 8 & 9

The system includes a multizone, blow-thru type air-conditioning unit (located outdoors), an air-cooled condenser, roof mounted, and all necessary piping, ductwork, controls, etc. Each zone is thermostatically controlled by respective thermostat.

Zone II ductwork layout is designed on the basis of accomplishing the most effective distribution while retaining the existing A.C. system (comprising the two 7 $\frac{1}{2}$ -tons "Carrier" and one 5-ton "Chrysler" air-conditioning units and respective refrigeration equipment) considered capable for 100 percent A.C. back-up of Rooms 11 and 12a.

Room 13 air-conditioning load shall be carried out by the existing 5-ton "Chrysler" A.C. unit and respective air-cooled condenser.

Rooms 13a and 13b, considered as non-critical areas, shall be air conditioned by means of existing room conditioners relocated from SE wall of the building where they are now installed.

Room 13c shall be ventilated, only, by means of a wall exhaust fan (sized for 10 air changes per hour) utilizing treated air from adjacent air-conditioned spaces.

Rooms 5a and 5b shall be ventilated by means of existing ventilators utilizing treated air from the adjacent conditioned rooms.

HEATING

No heating is required for Zones I and II.

Blast heating coils installed in the main Zones III and IV ducts shall take care of the heating load of Rooms 1, 2, 3, 4, 5c, 6a, 6b, 7, 8 and 9.

Rooms 13a, 13b and 13c shall be heated by means of electric baseboard heaters relocated from rooms of Zones III and IV where they are now installed.

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Next 21 Page(s) In Document Exempt

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